CLAIMS

1. A method of determining overlay tolerance, comprising:

3   exposing wafers at different critical dimensions;

4

5   varying the overlay across each wafer; and

6

7   using functional yield data to determine the overlay tolerance for each of the image

8   sizes.

1   2. A method according to Claim 1, wherein the exposing step includes the step of

2   exposing the wafers at critical dimensions relative to an optimum image size.

1   3. A method according to Claim 2, wherein the step of exposing the wafers at critical

2   dimensions includes the step of exposing the wafers at critical dimensions above, below

3   and at the optimum image size.

1   4. A method according to Claim 1, wherein the varying step includes the step of

2   varying the overlay across each wafer by intentionally changing the magnification.

1   5. A method according to Claim 4, wherein the step of varying the overlay across each

2   wafer includes the step of varying the overlay across each wafer by intentionally

3   increasing the magnification.

1   6. A method according to Claim 1, wherein the using step includes the steps of:

2

3   testing each of the wafers to identify a good region and a bad region; and

4

5   identifying the overlay tolerance, at which the bad region begins, as said determined

6   overlay tolerance.

1   7. A method according to Claim 1, wherein the using step includes the step of:

2

3   searching the overlays across one of the wafers for a defined feature; and

4

5   if the defined feature is found in one of the searched overlays, identifying the overlay

6   tolerance of said one of the overlays as the determined overlay tolerance.

1   8. A system for determining overlay tolerance, comprising:

2

3   means for exposing wafers at different critical dimensions;

4

5   means for varying the overlay across each wafer; and

6

7   means for using functional yield data to determine the overlay tolerance for each of the

8   image sizes.

1   9. A system according to Claim 8, wherein the exposing means includes means for

2   exposing the wafers at critical dimensions relative to an optimum image size.

1   10. A system according to Claim 9, wherein the means for exposing the wafers at critical

2   dimensions includes means for exposing the wafers at critical dimensions above, below

3   and at the optimum image size.

1   11. A system according to Claim 8, wherein the varying means includes means for

2   varying the overlay across each wafer by intentionally changing the magnification.

1   12. A system according to Claim 11, wherein the means for varying the overlay across
2   each wafer includes means for varying the overlay across each wafer by intentionally
3   increasing the magnification.

1   13. A system according to Claim 8, wherein the using means includes:
2
3   means for testing each of the wafers to identify a good region and a bad region; and
4
5   means for identifying the overlay tolerance at which the bad region begins, as said
6   determined overlay tolerance.

1   14. A system according to Claim 8, wherein the using means includes:
2
3   means for searching the overlays across one of the wafers for a defined feature; and
4
5   if the defined feature is found in one of the searched overlays, means for identifying the
6   overlay tolerance of said one of the overlays as the determined overlay tolerance.

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